Answers to Midterm Review

A

1) 8 2) 8 3) $5x^3+4x^2+x$

4) $12n^2-13n$ 5) $5b-2c$

B

1) $x=-8$ 2) $x=6$ 3) $x=-6$ 4) $v=\frac{M}{D}$

C

1) $8\sqrt{10}$ 2) $2\sqrt{17}$ 3) $\frac{10\sqrt{3}}{21}$

D

1) n^3-10 2) $6(2+n)$

E

1) no 2) yes 3) no 4) no

F

1) D: All real #s
R: $[-3,\infty)$

2) D: $\{-4,1,2,6\}$
R: $\{-1,8,9,14\}$

3) D: $[-2,\infty)$
R: All real #s

G

1) $2x^2+x+6$ 2) $-2x^2+11x-12$

3) $10x^3-25x^2+45x$ 4) $\frac{2x^2-5x+9}{6x-3}$

(H) 1) $h[f(x)] = 27x - 12$ 2) $f[h(x)] = 27x - 4$

3) -112

(I) 1) $y = 5x + 7$ 2) $y = 3x - \frac{1}{2}$ 3) $y = -2x - 2$

4) $y = 3x - 5$ 5) $y = 2x + 6$ 6) $y = -4x + 2$

(J) See graphs

(K) 1) reflected, steeper, shift up 2

2) flatter, shift down 4

(L) A. $m = 12$ – cost per box

B. \$100 – initial fee C. Independent: # boxes
Dependent: cost

D. $y = 12x + 100$

E. \$280 F. D: $\{0, 1, 2, \ldots, 15\}$ R: $\{100, 112, 124, \ldots, 280\}$

(M) 1) 6 chickens and 7 pigs

2) 2 fancy shirts, 5 plain shirts